



PROFESSIONAL SHOW LIGHTING

GOLDEN SCAN 3

HMI 575
HMI 1200
HMI 1200 TV

INSTRUCTION MANUAL

IMPORTANT: Read carefully. It is essential for the correct and safe use of the equipment that erectors and operators should be fully conversant with the information and instructions given in this manual.

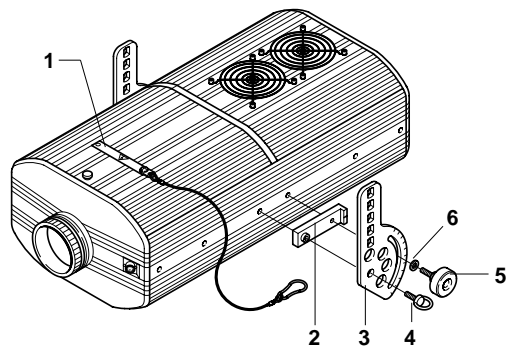
1 INSTALLING THE PROJECTOR

• Unpacking

Open the box, remove the projector from the packing and place it on a flat horizontal surface. Unpack the standard accessories supplied with the equipment. Inspect the lamp change label (1) and replace with one of the optional language versions if necessary. Make certain that the label is never removed, as it displays important safety information.

• Initial assembly operations

Position the block (2) over the threaded holes on the projector housing, offer the graduated plate (3) and secure with the eyebolt (4), then fit the knob (5) and washer (6).

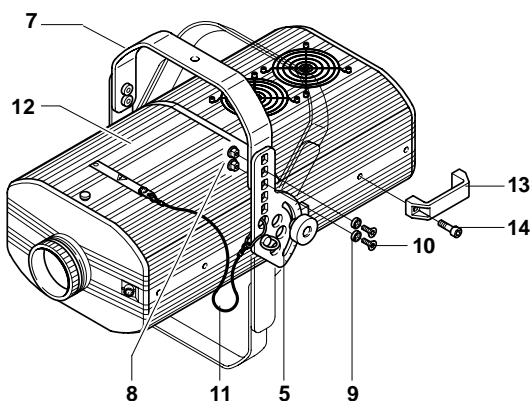


Align the bracket (7) with the plates (3) so as to give the desired height, insert the bushing (8), the countersunk washer (9) and the screw (10) in the selected holes and secure with the Allen key supplied. The bracket (7) can also be fitted from the underside of the projector by reversing the position of the graduated plates (3). If the projector has been shipped with plate (3) already fitted, before removing the plate (if necessary) remove the safety bolt located inside the fixture in correspondence with eyebolt (4).

Adjust the bracket to the desired angle and secure by tightening the knobs (5).

Fix the safety wire (11) of the lamp access cover (12) to the graduated plate (3).

Fit the four side handles (13) with the screws (14) provided. (Touring Version only).



• Fitting the lamp

Refer to directions for replacement of the lamp given under heading 7 MAINTENANCE.

• Installing the projector

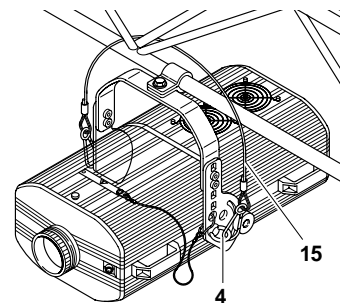
The projector can be mounted any position without its operating characteristics being affected.

IMPORTANT: fix the projector in the desired position utilizing the holes in the bracket (7). Secure preferably using two $\varnothing 12$ bolts with nuts and lock washers.

Make certain that the anchorage is stable before positioning the projector.

• Fitting the safety wire

The projector must never be erected without the safety wire (15). The wire is secured to the gantry or other structure, then anchored to the eye bolts (4) on the projector itself.



IMPORTANT: the safety wire must be secured to the projector and to the supporting structure in such a way that if the bracket should fail, the projector will fall as short a distance as possible.

Following any such failure, the safety wire must be replaced with a genuine Clay Paky spare.

• Minimum distance from target objects

The projector must be positioned in such a way that objects struck by the beam are separated from the lens at least by the distance indicated on the lamp change label against the symbol shown alongside.

(8' 2") 2.5 m	HMI 1200
(5' 11") 1.8 m	HMI 575

• Minimum distance of inflammable materials from any part of the equipment:
0.1 m (4") for HTI 1200 and 0.07 m (3") for HMI 575.



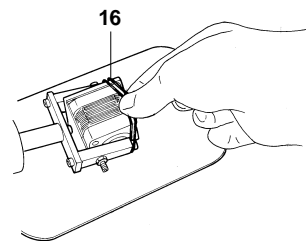
The appliance may be mounted on normally inflammable surfaces.

IMPORTANT: For better and more reliable operation of the projector, the ambient temperature must not exceed 35° C (95° F). Protection factor IP 20: the appliance is protected against penetration of solid bodies more than 12mm (0.5") in diameter (first digit 2), but can be damaged by spray, jet, drip or rain water (second digit 0).

2 INSTALLING THE MIRROR HEAD

• Unpacking

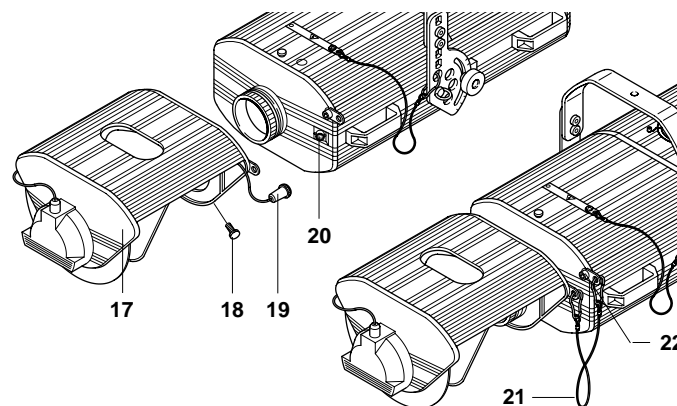
Open the box, take out the mirror head, position it on a horizontal surface and remove the elastic transit bands (16) from the Tilt motor



• Fitting the mirror head

Fit the mirror head (17) to the projector and secure with the three knobs (18). Connect the mirror head plug (19) to the socket (20) located on the front of the projector.

Connect the metal safety wire (21) to the tag (22) on the projector.

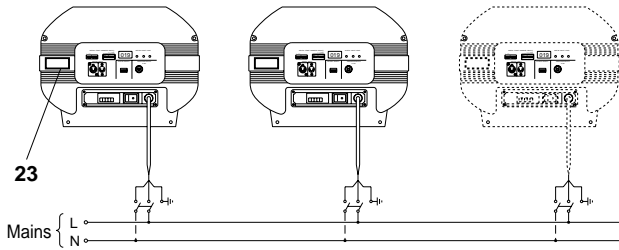


3 POWER SUPPLY AND INTERFACE

• Connecting to the electrical power supply

The operations described in this heading must be carried out by a licensed electrician.

It is good policy to connect projectors to the power supply by way of dedicated switches, so that each can be turned on and off individually from a remote station.

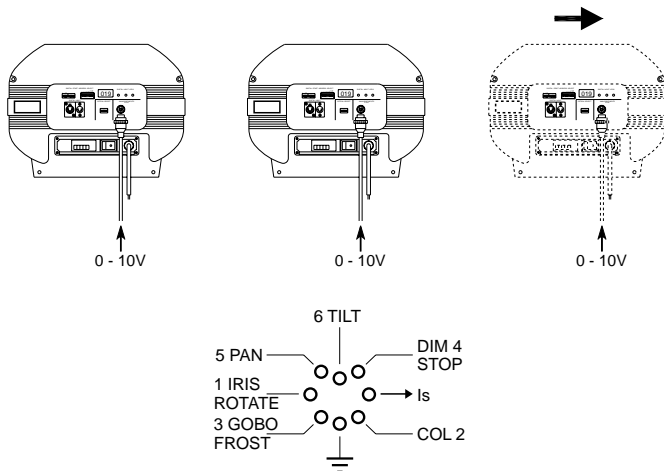


The projector is designed to operate at the voltage and frequency indicated on the electrical data plate (23) affixed to the rear end. Check that these two values correspond to the mains voltage and frequency.

IMPORTANT: the projector must be connected to a power supply circuit having a proper earth system (Class I appliance).

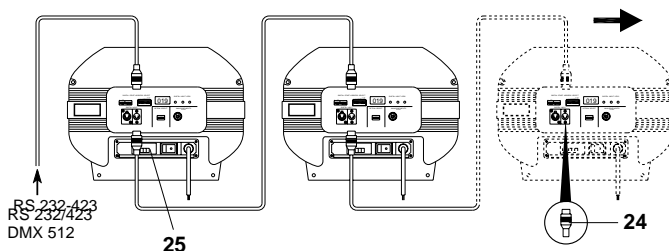
• Connecting the control signals

0-10V CONNECTION



The connection between controller and projector must be made using a multicore cable with 8 wires of 0.25 mm² section and a DIN 8 PIN 45° plug/socket connector.

RS 232/423(PMX) - DMX 512 CONNECTION



Projectors are wired up to the controller and one to the next using two-core screened cable and Cannon 5 pin XLR type plug/socket connectors. To connect a DMX line, a terminating plug (24) with a 100Ω resistor wired between pins 2 and 3 must be fitted to the last projector connected in series; the plug is not required when using a RS232/423(PMX) signal.

The wires must not come into contact with each other or with the metal casing of the plug.

The casing of the plug/socket must be connected to the screen and to pin 1 of the connectors.

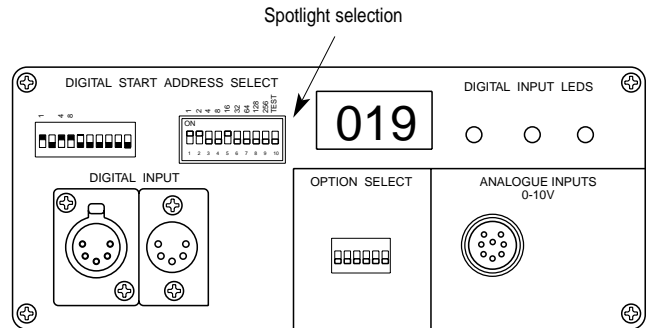


Having completed the operations described above, press the on/off switch (25). Check that the warning light comes on and that the auto-reset sequence starts.

• Projector address codes (for digital signals)

A single GOLDEN SCAN 3 projector utilizes 6 (Normal) or 8 (Expanded) control channels. To ensure that the different projectors are addressed correctly by the controller, a code must be assigned to each one.

The operation is carried out on each GOLDEN SCAN 3 by setting the dip-switches as indicated in the table below.



CODE	1	2	4	8	16	32	64	128	256	TEST
Projector 1 - Channels 1-6	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Projector 2 - Channels 7-12	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Projector 3 - Channels 13-18	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Projector 4 - Channels 19-24	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Projector 5 - Channels 25-30	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Projector 6 - Channels 31-36	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Projector 7 - Channels 37-42	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Projector 8 - Channels 43-48	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Projector 9 - Channels 49-54	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Projector 10 - Channels 55-60	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF

Setting the TEST switch to the ON position for a few seconds with the projector powered-up, an auto-reset routine is carried out. Leaving the TEST switch at the ON position for a longer period, a full self-test program will be completed; once the operation has terminated, return the switch to the OFF position.

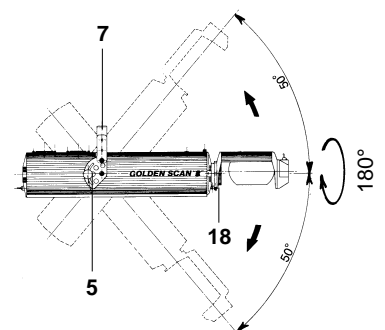
4 POSITIONING THE PROJECTOR

• Alignment procedure

Before positioning the projector, set the channels as shown in the following table:

CHANNEL	POSITION OF SLIDER
1 IRIS	100% (maximum aperture)
2 COLOUR EFFECTS WHEEL	-
3 GOBO SELECTION	-
4 DIMMER/STOPPER-STROBE	100 % (white beam)
5 PAN	50%
6 TILT	50%

Having completed all the operations indicated thus far, loosen the knobs (5), manoeuvre the projector on the bracket (7) until the beam is directed at centre stage, then retighten the knobs (5).

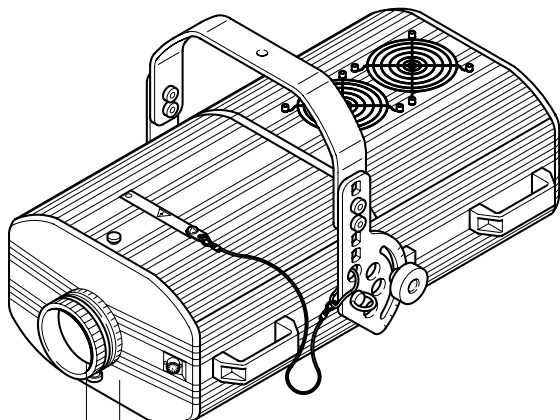


• Adjusting the mirror head

The beam can be positioned not only by moving the entire projector, but also by adjusting the mirror head. To do this, loosen the three knobs (18), turn the mirror head to the desired position, and retighten the knobs.

• Adjusting the lens

Move the lens (26) back and forward until the projected image is satisfactorily focused, then tighten the knob (27).



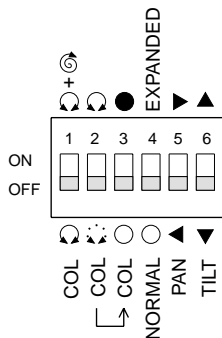
26 27

5 CHANNEL FUNCTIONS AND OPTIONS

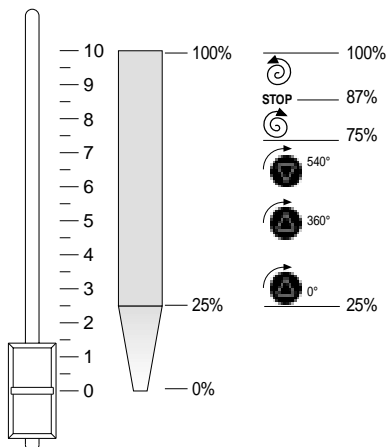
CHANNEL	6 CHANNEL OPERATION (option 4 OFF)	8 CHANNEL OPERATION (option 4 ON)
1	IRIS/ GOBO ROTATION	IRIS
2	COLOUR WHEEL	COLOUR WHEEL
3	GOBO/C.T.C./PRISM/FROST SELECTION	C.T.C./PRISM/FROST SELECTION
4	DIMMER/STOPPER-STROBE	DIMMER/STOPPER-STROBE
5	PAN	PAN
6	TILT	TILT
7	-	GOBO SELECTION
8	-	ROTAZIONE GOBO

OPTIONS

Select the options by setting the dip-switches as indicated.



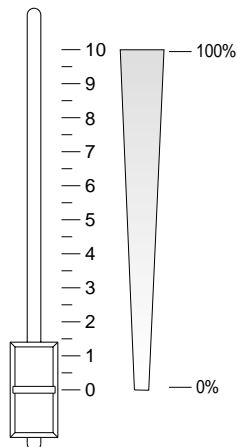
• IRIS/GOBO ROTATION (6 channel operation) - channel 1



The response of the iris to the movement of the potentiometer is linear and continuous through 0...25% of the adjustment range, within which the slider can be stopped in any position to obtain the desired aperture diameter. From 25% to 100% the diameter remains fixed..

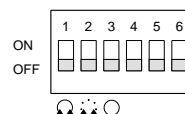
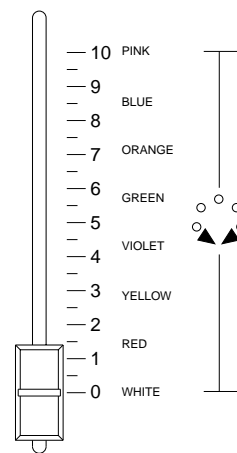
From 25% to 75% the gobo rotates through 540° (1 1/2 turns). From 75% all'87% the gobo turns more quickly at first, then slows down to a complete stop. From 87% al 100% the gobo begins turning in the opposite direction, slowly at first and then more quickly.

• IRIS (8 channel operation) - channel 1



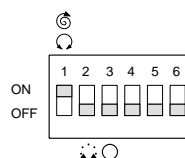
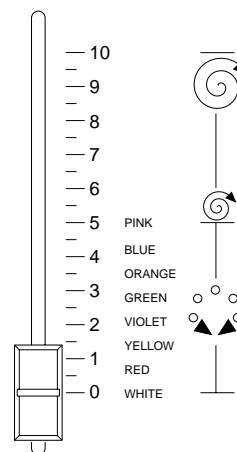
The response of the iris to the movement of the potentiometer is linear and continuous through the full 0...100% range, so that the slider can be stopped in any position to obtain the desired aperture diameter.

• COLOUR WHEEL - channel 2



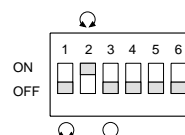
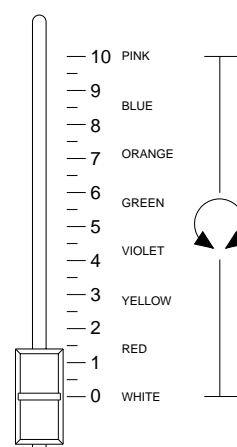
Standard operation

Colour changes occur instantaneously across the full range of adjustment from 0% to 100% as the slider reaches different present levels on the graduated scale.



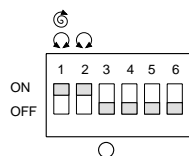
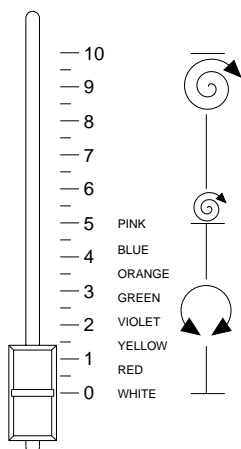
Operation with option 1 ON

In the 0% to 50% range of adjustment, operation is standard; from 50% to 100% the wheel rotates continuously with speed increasing steadily from 0 to 300 rpm.

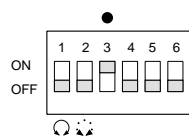
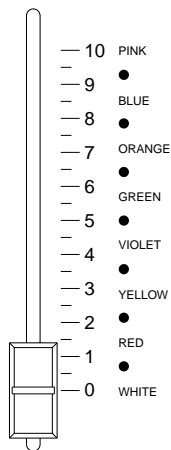


Operation with option 2 ON

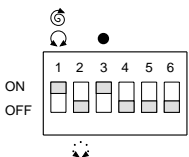
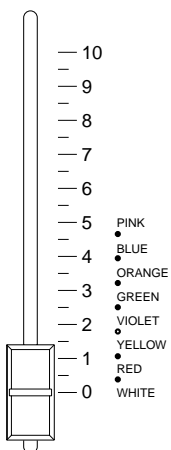
The change of effect in response to the movement of the potentiometer is linear and continuous, so that the slider can be stopped in intermediate positions to obtain a two colour beam.



Operation with options 1 and 2 ON
In the 0% to 50% range of adjustment, operation is the same as with option 2 ON. From 50% to 100% the wheel rotates continuously with speed increasing steadily from 0 to 300 rpm.

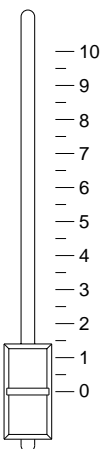


Operation with option 3 ON
The sequence of effects is produced as in standard operation, though the beam darkens during the changeover. This option remains inhibited during continuous rotation of the wheel (option 2 ON).



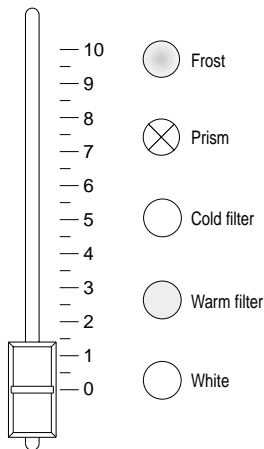
Operation with options 1 and 3 ON
In the 0% to 50% range of adjustment, operation is the same as with option 3 ON. From 50% to 100% the wheel rotates continuously with speed increasing steadily from 0 to 300 rpm.

• GOBO/C.T.C./PRISM/FROST SELECTION (6 channel operation) - channel 3



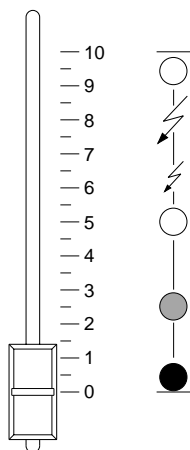
100%		Prism
		Cold filter
		Warm filter
		White
81,7%		Prism
		Cold filter
		Warm filter
		White
61,2%		Prism
		Cold filter
		Warm filter
		White
41,0%		Prism
		Cold filter
		Warm filter
		White
20,5%		Frost
		Prism
		Cold filter
		Warm filter
		White
0,0%		

• C.T.C./PRISM/FROST SELECTION (8 channel operation) - channel 3



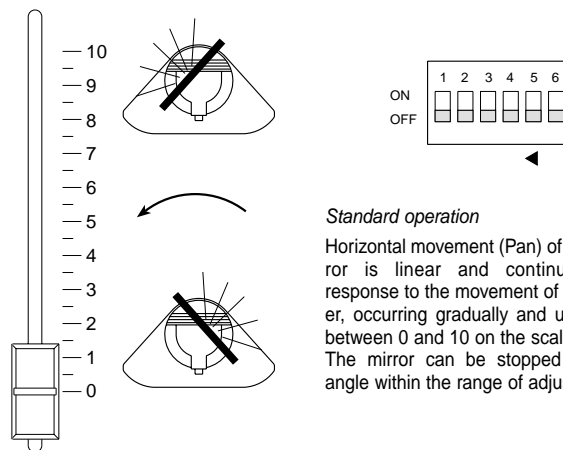
The change occurs instantaneously as the slider reaches different preset levels on the graduated scale.

• DIMMER/STOPPER-STROBE - channel 4



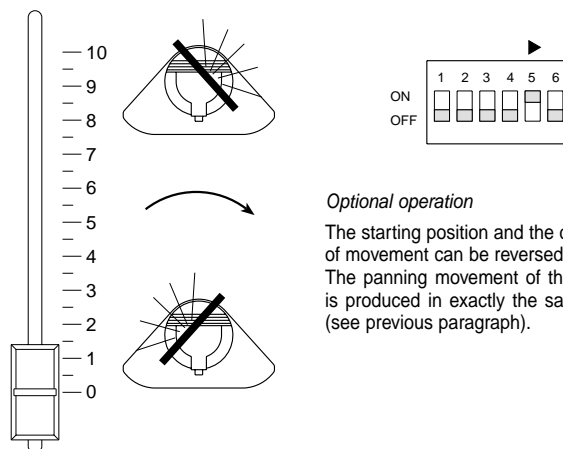
In the 0% to 50% range of adjustment, the dimmer opens gradually to maximum aperture. Strobe effect is produced from 55% to 95%, with frequency increasing from 1 to 7 flashes per second. The aperture remains fixed between 95% and 100% of the range.

• PAN - channel 5



Standard operation

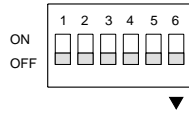
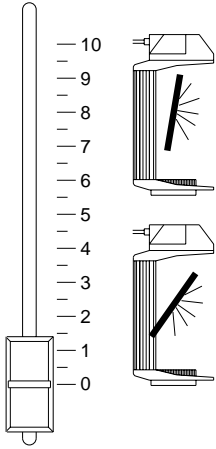
Horizontal movement (Pan) of the mirror is linear and continuous in response to the movement of the slider, occurring gradually and uniformly between 0 and 10 on the scale. The mirror can be stopped at any angle within the range of adjustment.



Optional operation

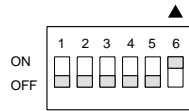
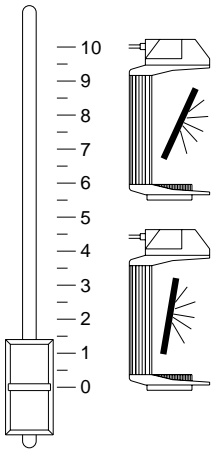
The starting position and the direction of movement can be reversed. The panning movement of the mirror is produced in exactly the same way (see previous paragraph).

• TILT - channel 6



Standard operation

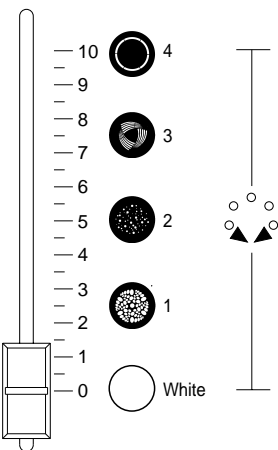
Vertical movement (Tilt) of the mirror is linear and continuous in response to the movement of the slider, occurring gradually and uniformly between 0 and 10 on the scale. The mirror can be stopped at any angle within the range of adjustment.



Optional operation

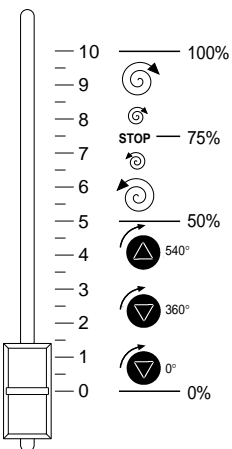
The starting position and the direction of movement can be reversed. The tilting movement of the mirror is produced in exactly the same way (see previous paragraph).

• GOBO SELECTION (8 channel operation) - channel 7



The change occurs instantaneously as the slider reaches different preset levels on the graduated scale.

• GOBO ROTATION (8 channel operation) - channel 8



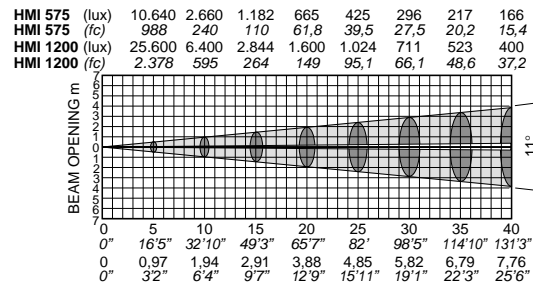
- From 0% to 49.7% the gobo rotates through 540° (1 1/2 turns).
- From 50% to 75% the gobo turns more quickly at first, then slows down to a complete stop.
- From 75.5% to 100% the gobo begins turning in the opposite direction, slowly at first and then more quickly.

6

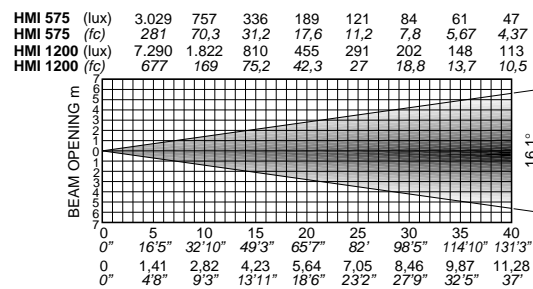
LENS UNITS

GRAPHS SHOWING BEAM DATA AND ILLUMINATION VALUES

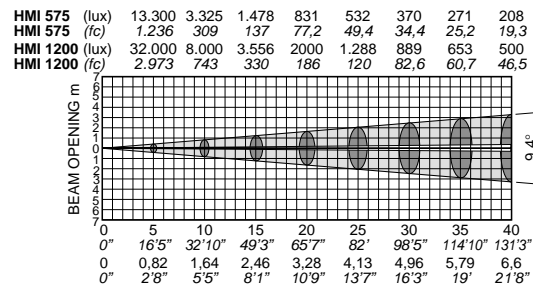
Objective 1:2,5/250 - Standard dotation



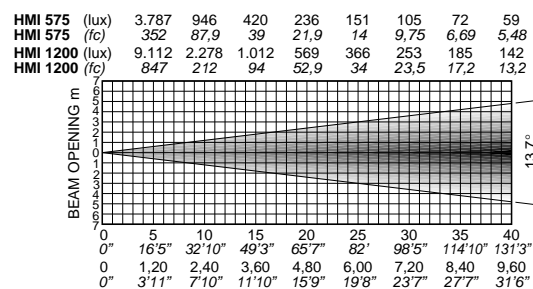
Objective 1:2,5/250 - With FROST



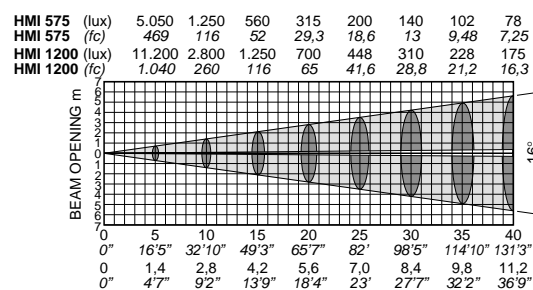
Objective 1:3,3/300 - Available on request



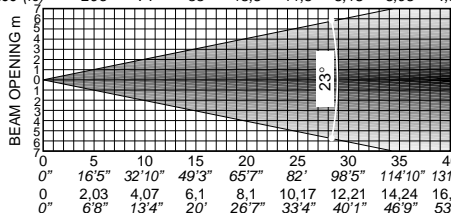
Objective 1:3,3/300 - With FROST



Objective 1:2,5/250 - with built in wide-angle Available on request



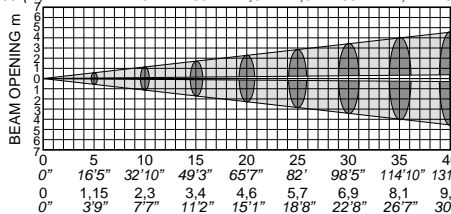
HMI 575 (lux)	1.438	355	159	89	56	39	29	22
HMI 575 (fc)	134	33	14,8	8,27	5,2	3,62	2,69	2,04
HMI 1200 (lux)	3.190	797	355	199	127	88	64	49
HMI 1200 (fc)	296	74	33	18,5	11,8	8,18	5,95	4,55



iris max.

Objective 1:3,3/300 - with built in wide-angle
Available on request

HMI 575 (lux)	5.760	1.450	640	360	232	160	118	90
HMI 575 (fc)	535	135	59,5	33,4	21,6	14,9	11	8,36
HMI 1200 (lux)	12.800	3.200	1.400	800	512	355	261	200
HMI 1200 (fc)	1.189	297	130	74,3	47,6	33	24,2	18,6

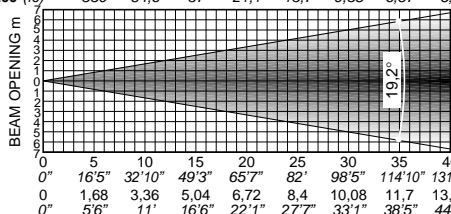


iris min.

iris max.

Objective 1:3,3/300
with built in wide-angle and with FROST

HMI 575 (lux)	1.640	412	182	102	66	45	33	25
HMI 575 (fc)	152	38,3	16,9	9,48	6,13	4,18	3,07	2,32
HMI 1200 (lux)	3.645	911	398	227	145	101	74	56
HMI 1200 (fc)	339	84,6	37	21,1	13,7	9,38	6,87	5,2



iris max.

7

MAINTENANCE

IMPORTANT: isolate the projector from the electrical power supply before commencing maintenance work of any description.

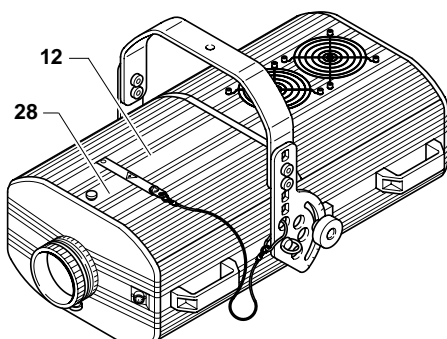
The maximum temperature on the outer surface of the projector under normal operating conditions is 90 °C (194° F).

After switching off, do not remove any part of the projector for at least 10 minutes, as indicated on the lamp change label (1).

Once this time has elapsed, the risk of a lamp exploding is practically zero. If the lamp needs changing, wait a further 20 minutes to avoid the risk of burns. In the event of a lamp exploding, the appliance is designed to prevent fragments of glass from being scattered. Lenses and clear filters supplied with the appliance must be fitted at all times, and if visibly damaged must be replaced promptly with genuine spares.

• Opening the projector

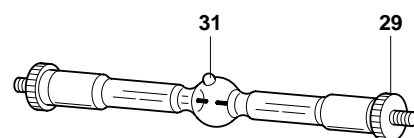
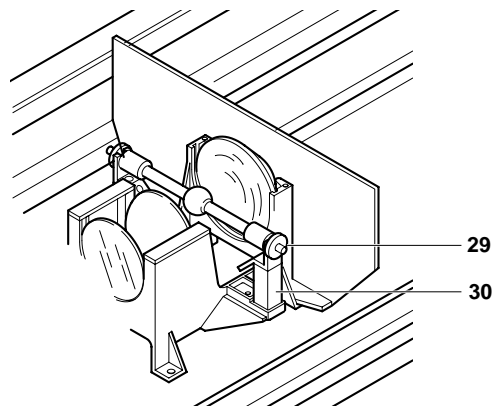
Free the access cover (12) by loosening the knob (28), and remove from the projector. Once the necessary work has been completed, refit the cover (12) and retighten the knob (28).



• Changing the lamp

Open the projector, loosen the two side nuts (29) of the lamp to be changed and remove it from the supports (30).

Remove the new lamp from its packaging, loosen the two side nuts (29) and locate the lamp in the supports (30). Finally, retighten the nuts.



IMPORTANT: for uniform distribution of the light beam, the lamp must be positioned so that the glass pip (31) on the bulb does not coincide with the optical axis of the projector. With this in mind, locate the pip as high up as possible.

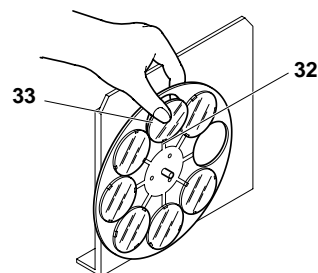


CAUTION: The projector uses a high pressure discharge lamp with external starter.

- When fitting a new lamp, read the manufacturer's instructions carefully.
- The lamp must always be changed without delay if damaged or deformed by heat.

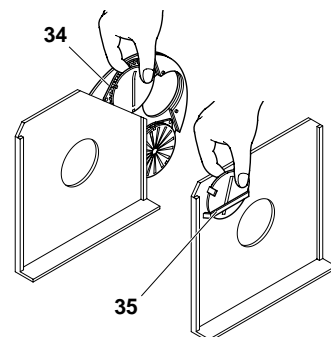
• Changing the colour filters

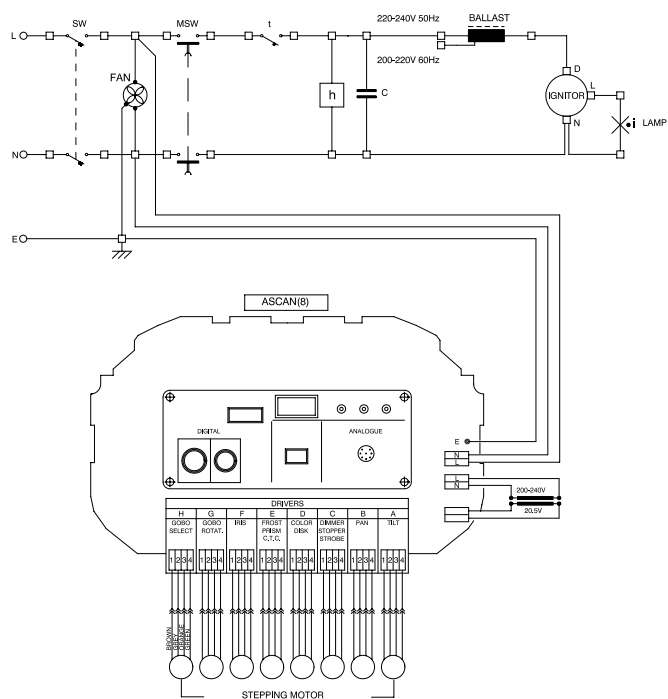
Having opened the projector, identify the filter to be changed, grip firmly between thumb and forefinger and push against the spring clip (32) until free of the fixed clips (33). Bend the filter outwards and remove. Offer the new filter to the spring clip (32) and anchor behind the two fixed clips (33).



• Changing metal gobos

Having opened the projector, identify the gobo to be replaced and push gently toward the clips (34) until free. Take the selected replacement from the holder (35) on the gobos/iris plate. Offer the new gobo to the two clips, push gently and locate behind the remaining clips, checking for flatness.





The specifications published in this manual are not binding, and may be revised or updated at any time by Clay Paky without notice in the interests of improving product quality.



The products referred to in this manual comply with EC Directives on:

- Low Voltage 73/23
- Electromagnetic Compatibility 89/336